

USA Appln. No. 09/022,336
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positive electrode;

an electrolyte in said housing in contact with said positive and negative electrodes;

a gas space within said housing;

a pressure relief valve which allows gas to escape from the housing and which prevents oxygen gas from outside the housing to contact said negative electrode;

a gas-permeable catalyst container in gas communication with said gas space, said container comprising a flame arresting material having pores of suitable size to permit gas to pass therethrough while being a barrier to a flame, said container being encased in a gas-permeable hydrophobic coating; and

a catalyst arranged in said catalyst container for converting oxygen gas and hydrogen gas which is generated in the housing to water vapor.

8. (Amended) An electrical cell in accordance with claim [7] 36 further comprising:

means for charging the cell at a charge voltage having a value which is slightly in excess of the value of the open-circuit voltage of the cell.

9. (Amended) A cell according to claim [7] 37 wherein said electrolyte is an immobilized electrolyte suitable for lead-acid cells.

20. (Amended) A device in accordance with claim 16 wherein said hydrophobic coating is formed by soaking said [vessel] container in a PTFE solution.

21. (Amended) A device in accordance with claim 20 wherein said coating is formed by the following steps:

(1) dipping said [vessel] container in a PTFE solution,

(2) drying said dipped [vessel] container by heating it at a temperature between about 100 to about 120 degrees Celsius.

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22. (Amended) A device in accordance with claim [16] 15 wherein said [ceramic vessel] container has an outside diameter of about .6 inches[, an inside diameter of about .38 inches, and] comprises alumina-porcelain, and said hydrophobic coating comprises PTFE.

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23. (Amended) A device in accordance with claim 15 wherein said container is cylindrical, and said hydrophobic coating comprises PTFE.

24. (Amended) A device in accordance with claim [16] 17 wherein said container has an opening at an end of said [vessel] container through which the catalyst is added, said opening being sealed closed with an epoxy.

27. (Amended) A vent assembly for sealing a VRLA battery cell having a sealed housing and a gas space within said housing, said device comprising:
a vent body through which gas from inside the housing can vent to outside the housing;
a pressure relief valve member within said vent body to allow excess gas to escape from the housing and which prevents gas outside the housing from entering the housing;
a gas-permeable catalyst container supported on said body to be in gas communication with said gas space when said vent assembly seals the battery cell, said catalyst container comprising a flame arresting material having pores of suitable size to permit gas to pass therethrough while being a barrier to a flame, said container being encased in a gas-permeable hydrophobic coating; and
a catalyst arranged in said catalyst container for recombining oxygen gas and hydrogen gas generated in the cell to water vapor.

32. (Amended) A device in accordance with claim 15 further comprising:

a vent assembly for sealing a battery cell and which includes
a vent body through which gas from inside the cell can vent to outside the

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cell, and

a pressure relief valve member within said vent body to allow excess gas to escape from the cell;
a cage secured to an underside of said vent body; and
wherein said catalyst container is supported within said cage.

35. (Amended) The device of claim 15 in combination with a storage battery, comprising:

a sealed housing;
a positive electrode positioned in the housing;
a negative electrode positioned in the housing in spaced relationship from the positive electrode;
an electrolyte in said housing in contact with said positive and negative electrodes;
a gas space within said housing;
a vent assembly having a pressure relief valve member which allows gas to escape from the housing and which prevents oxygen gas from outside the housing to contact said negative electrode; and
wherein said device of claim 15 is positioned within said gas space.

Please add the following new claims:

36. (new) A cell according to claim 7 wherein said gas-permeable hydrophobic coating comprises PTFE.

37. (new) A cell in accordance with claim 7 wherein said gas-permeable hydrophobic coating comprises a material in the form of a film.

38. (new) An assembly in accordance with claim 27 wherein said gas-permeable hydrophobic coating comprises PTFE.

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39. (new) An assembly in accordance with claim 27 wherein said gas-permeable hydrophobic coating comprises a film of PTFE.

40. (New) A device for recombining gases in a storage battery; comprising:
a gas-permeable catalyst container, said container being formed of a flame arresting material having pores of suitable size to permit gas to pass therethrough and which acts as a barrier to a flame;
a catalyst arranged within said container; and
a PTFE gas-permeable hydrophobic encasement of said container.

41. (New) A device in accordance with claim 40 wherein said PTFE encasement comprises a film.

42. (New) A catalyst device for recombining gases in a storage battery; comprising:
a gas-permeable catalyst container, said container being formed of a flame arresting material having pores of suitable size to permit gas to pass therethrough and which acts as a barrier to a flame;
a catalyst arranged within said container; and
a PTFE gas-permeable hydrophobic material attached externally to and surrounding said container.

REMARKS

Claims 7 to 30 and 31 to 35 are pending. Claims 1-6 and 31 were withdrawn in a previous response to a restriction requirement.

Claims 10, 11, 13 and 26 are canceled, and new claims 38 to 42 added.

Claims 7-13, 15, 16, 22-24, 26-30, 32, and 35 stand rejected.

Claims 14, 17-21, 25, 33, and 34 are objected to and believed allowable if rewritten in independent form. If this assumption is incorrect, applicant requests notification in the next office action.

Claims 7 and 27 were amended to clarify that water vapor is generated at the